

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- Claim 1. (Currently amended) An isolated, non-genomic polynucleotide:
- (a) consisting of a polynucleotide encoding the amino acid sequence of SEQ ID NO:2; or
 - (b) consisting of the nucleotide sequence of SEQ ID NO:1.
- Claims 2-3. (Cancelled)
- Claim 4. (Previously presented) A vector comprising a regulatory sequence operably linked to a polynucleotide encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 2.
- Claim 5. (Original) A host cell transformed or transfected with the vector of claim 4.
- Claim 6. (Original) The host cell of claim 5 which is mammalian.
- Claim 7. (Currently amended) A process for producing a polypeptide comprising the amino acid sequence of SEQ ID NO: 2 comprising culturing the host cell of claim 5 under conditions sufficient for the expression of said polypeptide.
- Claim 8. (Original) The process of claim 7, wherein said polypeptide is expressed at the surface of said host cell.
- Claim 9. (Withdrawn) Polypeptides produced by the process of claim 7.
- Claim 10. (Currently amended) A membrane preparation of the cells of claim 5 comprising the recombinantly expressed polypeptide comprising SEQ ID NO: 2.
- Claim 11. (Withdrawn) A polypeptide comprising:
- (a) a polypeptide having the deduced amino acid sequence translated from the polynucleotide sequence in SEQ ID NO:1 or SEQ ID NO:3 and variants, fragments, homologues, analogues and derivatives thereof; or
 - (b) a polypeptide of SEQ ID NO:2 or SEQ ID NO:4 and variants, fragments, homologues, analogues and derivatives thereof.
- Claim 12. (Withdrawn) A pharmaceutical composition for the treatment of a patient having need to upregulate a receptor, said pharmaceutical composition comprising

the polypeptide of claim 11.

Claim 13. (Withdrawn) An antibody against the polypeptide of claim 11.

Claim 14. (Withdrawn) A pharmaceutical composition for the treatment of a patient having need to activate or inhibit a receptor, said pharmaceutical composition comprising the antibody of claim 13.

Claim 15. (Withdrawn) A method for identifying a compound that binds to the polypeptide of claim 11, said method comprising the steps of:

(a) contacting (i) a detectable compound known to bind to said polypeptide and (ii) a test compound with cells expressing said polypeptide or a membrane preparation of said cells;

(b) contacting the same amount of said detectable compound with the same amount of said cells or a membrane preparation of said cells under the same conditions as in step (a) but in the absence of said test compound; and

(c) comparing the amount of said detectable compound bound in steps (a) and (b), thereby identifying said test compound as a compound that binds to said polypeptide.

Claim 16. (Withdrawn) The method of claim 15, wherein said detectable compound is a nucleotide or nucleotide derivative.

Claim 17. (Withdrawn) A method for identifying a compound that binds to and activates the polypeptide of claim 11, said method comprising the steps of:

(a) contacting said compound with cells expressing on the surface thereof said polypeptide or a membrane preparation of said cells, said polypeptide being associated with a second component capable of providing a detectable signal in response to the binding of said compound to said polypeptide; said contacting being under conditions sufficient to permit binding to said polypeptide; and

(b) identifying said compound as binding to and activating said polypeptide by detecting the signal produced by said second component.

Claim 18. (Withdrawn) A method for identifying a compound that binds to and inhibits activation of the polypeptide of claim 11, said method comprising the steps of:

(a) contacting (i) a detectable first component known to bind to and activate said polypeptide and (ii) said compound with cells expressing on the surface thereof

said polypeptide, or a membrane preparation of said cells, said polypeptide being associated with a second component capable of providing a detectable signal in response to the binding of said compound to said polypeptide; said contacting being under conditions sufficient to permit binding to said polypeptide; and
(b) identifying said compound as binding to and inhibiting activation of said polypeptide by determining whether said first component binds to said polypeptide by detecting the absence or otherwise of a signal generated from the interaction of said first component with said polypeptide.

Claim 19. (Withdrawn) A method of elucidating the three-dimensional structure of the polypeptide of claim 11, said method comprising the steps of:

- (a) purifying said polypeptide;
- (b) crystallising said polypeptide; and
- (c) elucidating the structure of said polypeptide by X-ray crystallography.

Claim 20. (Withdrawn) A method of modelling the structure of the polypeptide of claim 11, said method comprising the steps of:

- (a) aligning the sequence of said polypeptide with the sequence of rhodopsin;
- (b) mapping the detected sequence differences of said polypeptide onto the known structure; and
- (c) deriving a homology model of said polypeptide.